Behavior prediction of glued laminated timber beam made of different hardwood laminations using transformed section method

Abstract

Glued laminated (glulam) timber structural member is one of the earliest engineered structural woods. A glulam member is primarily wood lamination combined into the desired structural member. The laminations of glulam member may be of any thickness or length; narrow pieces glued edge to edge to form a wide glulam, lamination made up of different wood species, or curve laminations (Freas, Selbo (1954)). Due to the limited size of tree, solid timbers sizes are limited. Therefore in cases where beam with long span, larger size, larger load factors and beam with more curvature is needed, glulam is a viable choice. This is as glulam retain properties similar to sawn solid wood (SIRIM (2001)).